

AMENDMENTS

Amendments to the Specification

Please delete and replace the following paragraphs:

[Page 4, Lines 7-12]:

In an additional embodiment the wafer carrier further includes: a flexible [member] membrane is connected to the base and defines a plurality of chambers therein, a lower surface of the flexible [member] membrane providing a wafer receiving surface with a plurality of inner portions associated with respective ones of said plurality of chambers to define corresponding localized regions or zones on the surface of the wafer, and wherein the pressures within each of said chambers are independently controllable.

[Page 5, Lines 6-7]:

FIGS. 9A and 9B are section views of the flexible [member] membrane in FIG 8 taken along lines A-A and B-B, respectively.

[Page 10, Lines 17-26]:

Of particular advantage, the wafer carrier head 56 provides for pressure distribution to the wafer without influence by the frictional loads in the machine. Specifically referring to FIG 5 is a top view of the wafer carrier 56, showing sections A-A, B-B and C-C that correspond to FIGS 6A, 6B and 6C, respectively. Referring to FIGS. 6A-6C, FIGS. 9A-9B and FIG. 10A-10B, the wafer carrier head 56 generally includes the carrier head housing 68, a carrier head base 92, a flexible membrane 94 mounted on a backing plate on the carrier head base 92 to form a closed bladder 95 having chambers formed therein (also referred to as a compartmentalized membrane), and a retaining ring 96. The wafer carrier 38 of the present invention utilizes a bladder bellows 98 to connect the bladder 95 to the carrier head body 68 in such a manner that the carrier head base 92 can accommodate misalignment between the wafer and the polishing pad 34.

[Page 13, Lines 20-28]:

As described above, and shown in further detail in FIGS. 8, 9A and 9B, the flexible membrane 94 is connected to a backing plate or the carrier base 92 to form a closed bladder

which includes a plurality chambers 106, 108, 110, 112. For example, the flexible membrane shown in FIGS. 6A-6C [3] includes four vertically extending concentric flanges 114, 116, 118, 120 which, when connected to the carrier base 92, define a first central circular chamber 106, a second annular inner chamber 108 surrounding the first chamber 106, a third annular middle chamber 110 surrounding the second chamber 108, and a fourth annular outer chamber 112 surrounding the third chamber 110. Pressurization of the chambers controls the downward pressure of the wafer against the polishing pad 34.

[Page 19, Lines 17-30]

Figs. 13A and 13B are sectional views of the flexible ~~member~~ membrane in Fig 8 taken along lines A-A and B-B, respectively, in accordance with another embodiment of the present invention. The membrane 270 is divided into annular compartments by rings of flexible tubing 272, also called a chamber dividing tube. The ends of the tube are sealed together to make a continuous ring. At some locations along the periphery of the tube 272 are smaller inter-chamber restrictors or tubes 274, which serve as flow restrictions for fluid flow into and out of the dividing tube 272. This allows the communication of adjacent pressure compartments. Because the pressure in each compartment is maintained through an active control system, the small restrictors or tubes 274 allow the pressure within the chamber dividing tube 272 to be an average of the two adjacent pressure chambers. This insures that the most appropriate pressure at the transition from one chamber to another. It is important that the inter-chamber restrictors 274 offer a higher flow resistance than the passageway into the pressure chambers from the pressure regulators. It is also important that the flow restriction presented by the inter-chamber restrictions 274 is equal for each of the restrictions.